In the Claims:

1. A method of detecting speech in an incoming signal comprising the steps of:

performing a preprocessing step of extracting a noise estimate of the incoming signal to augment signal-to-noise ratio of a speech signal and measuring the periodicity of the incoming signal using an autocorrelation function to determine whether a signal frame correspond to a speech frame or not..

2. The method of claim 1 wherein said periodicity measurement is defined as :

$$\rho = \max_{T_l}^{T_h} Rx(\tau)$$

where T_l and T_h are pre-specified so that the period will range in the range of speech and the signal is speech if ρ is above a given threshold.

3. The method of Claim 2 wherein said period is between about 75 Hz and 400 Hz.

4.The method of claim 1 where said threshold value is set to maximize speech detection accuracy.

5. The method of claim 1 wherein said extracting step includes the steps of:

converting the spectrum of the incoming signal into logarithmic domain,

removing high frequency components in logarithmic domain by recurrent filtering along the time axis,

establishing an estimate of noise background, converting the estimate into linear domain, and

suppressing the noise background from the signal, in linear domain.

6. The method of Claim 5 including the preprocessing step of spectral inverse filtering.

7. The method of Claim 6 wherein said inverse filtering is based on a normalized approximation of the envelope of the short term speech spectrum derived from a local maxima of the short term speech spectrum.

8. The method of claim 8 wherein said inverse filtering is performed in a log frequency domain and is implemented by subtracting from the original spectrum the estimated inverse filtering spectrum.

9. The method of Claim 6 including spectral reshaping to create an artificial valley in the spectrum before inverse filtering if the original spectrum has two formants close together and low in the speech spectrum.